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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,654	10/26/2001	Hugh L. Brunk	P0483	1906
23735	7590	12/12/2005	EXAMINER	
DIGIMARC CORPORATION			POWERS, WILLIAM S	
9405 SW GEMINI DRIVE			ART UNIT	PAPER NUMBER
BEAVERTON, OR 97008			2134	
DATE MAILED: 12/12/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/045,654	BRUNK ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	William S. Powers	2134

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-27 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 10/26/2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All    b) Some \* c) None of:  
1. Certified copies of the priority documents have been received.  
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/19/2005</u> | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

**DETAILED ACTION**

1. Claims 1-27 have been examined. Claims 1, 10-13 and 15-16 have been amended. Claims 17-27 have been added. Applicant included copies of preliminary amendments to the application being faxed to the Patent Office on May 22, 2002. Please be advised that examiner found no evidence of the preliminary amendments in eDAN or that any fees associated with the preliminary amendments were received by the Patent Office.

***Information Disclosure Statement***

2. The information disclosure statement filed 9/19/2005 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.
3. U.S. Patent Application No. 09/404292, U.S. Provisional Application Nos. 60/198138, and 60/232163 have not been considered as they are in proper section of the IDS.

***Drawings***

4. In view of the applicant's amendments, all objections to the drawings are withdrawn.

***Specification***

5. In view of the applicant's amendments, all objections to the specification are withdrawn.

***Claim Objections***

6. Claim 24 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The claim merely puts the second information inside the first information, which does not further limit the parent claim.

***Claim Rejections - 35 USC § 112***

7. In view of the applicant's arguments, all previous rejections under 35 USC 112 are withdrawn.

***Claim Rejections - 35 USC § 101***

8. In view of the applicant's amendments, all rejections under 35 USC 101 are withdrawn.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 4-14 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,064,764 to Bhaskaran et al. (hereto referred to as Bhaskaran).

As to claim 1, 11 and 12, Bhaskaran teaches decoding data from a watermarked image to extract two metrics:

- a. A hash value of the watermarked image.
- b. A watermark computed from the hash value of the original image.

These metrics are compared to determine if the image has been altered (column 6, lines 17-58).

As to claim 4 and 5, Bhaskaran teaches that the watermark comprising a first and second metric (column 4, lines 11-15) is composed of a plurality of frequency coefficients that are quantized or averaged to minimize the distortion of the image.

As to claim 6, Bhaskaran teaches the use of entropy coding to determine the location of the coefficients that make up the embedded watermark in the watermarked image (column 6, lines 24-31).

As to claim 7, Bhaskaran teaches the evaluation of the highest frequency transform coefficient (peak) in each block to extract watermark data (column 3, lines 18-34).

As to claim 8, Bhaskaran teaches a photograph (column 8, lines 51-54).

As to claim 9, Bhaskaran teaches the use of a hash function as the first metric of the watermark (column 4, lines 11-17) which can be used to determine the energy level of the image to be watermarked.

As to claim 10, Bhaskaran teaches a watermark that is computed using a hash value of the image. The watermark is embedded in the image by an embedder. The hash value is used in the verification phase in comparison to the extracted watermark to determine if the watermarked image has been tampered (column 4, lines 10-62).

As to claims 13 and 14, Bhaskaran teaches comparing the highest coefficients in the frequency domain of the digital watermark to determine if the image has been altered (column 3, lines 17-35).

10. Claims 15-19 and 22-27 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,330,672 to Shur.

As to claim 15, Shur teaches:

- a. Embedding a watermark into a digital data stream (column 6, lines 38-45) said watermark having the capacity to prevent the use of the digital data after a predetermined date or number of plays (column 10, lines 1-11).
- b. Rendering the watermarked digital data stream (column 6, lines 61-67).
- c. Detecting the watermark of the watermarked digital data stream (column 11, lines 12-24).

d. Generating a metric based on the detected watermark (column 11, lines 12-24).

e. Embedding said metric into data stream as part of the digital watermark (column 10, lines 1-11).

As to claim 16, Shur teaches the broadcasting of the digital data stream (column 6, lines 61-67).

As to claim 17, Shur teaches the extraction of the watermark from a media signal and adding new data to the digital watermark (column 11, lines 13-23).

As to claim 18, Shur teaches extracting a watermark, adding data to it and embedding it in the media signal as a second watermark (column 11, lines 12-24).

As to claims 19, 23 and 24, Shur teaches:

a. Embedding a digital watermark in a media stream (column 6, lines 38-45).

b. Analyzing (rendering) the embedded watermark (column 11, lines 3-24) to determine a baseline state, such as the number of permitted plays (column 10, lines 1-11).

c. Embedding the number of plays allowed for the digital data in the media stream (column 10, lines 1-11).

- d. Embedding the encoding algorithm for the digital data in the media stream (column 10, lines 1-11).

As to claim 22, Shur teaches embedding encoding algorithm for the digital data in the media stream (column 10, lines 1-11) so that said data can be played at destination device (column 4, lines 35-44).

As to claim 25, Shur teaches:

- a. Embedding a watermark into a digital data stream (column 6, lines 38-45) said watermark having the capacity to degrade to prevent the use of the digital data after a predetermined date or number of plays (column 10, lines 1-11).
- b. Rendering the watermarked digital data stream (column 6, lines 61-67).
- c. Detecting the watermark of the watermarked digital data stream (column 11, lines 12-24).
- d. Generating a metric based on the detected watermark (column 11, lines 12-24).
- e. Embedding said metric into data stream as part of the digital watermark (column 10, lines 1-11 and column 8, line 56-column 9, line 4).

As to claim 26, Shur teaches encrypting the data prior to embedding (column 5, lines 22-58).

As to claim 27, Shur teaches a predetermined metric protocol, such as the number of plays allowed (column 10, lines 1-11).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,064,764 to Bhaskaran et al in view of U.S. Patent No. 5,930369 to Cox et al (hereto referred to as Cox).

As to claim 2, Bhaskaran teaches the use of a watermark to determine if an image has been subject to tampering (column 3, lines 18-35), but does not specifically disclose what comprises said tampering.

Cox teaches that by analyzing a watermark it can be determined whether or not a watermarked image has been compromised through printing, photocopying or scanning (column 13, lines 19-23).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Bhaskaran by including the ability to

detect a watermarked image and determine that is compromised by printing, scanning or photocopying as disclosed by Cox.

As to claim 3 Bhaskaran further teaches decoding data from a watermarked image to extract a hash value of the watermarked image and a watermark computed from the hash value of the original image that are compared to determine if the image has been altered (column 6, lines 17-58).

12. Claims 20 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,330,672 to Shur in view of U.S. Patent No. 6,366,685 to Takaragi.

As to claims 20 and 21, Shur teaches embedding encoding algorithm for the digital data in the media stream (column 10, lines 1-11) so that said data can be played at destination device (column 4, lines 35-44), but does not expressly state that the destination device is a printer.

Takaragi teaches the use of printer-specific and color-space data in the rendering of watermarked data (column 2, lines 35-60 and column 4, lines 28-59) in order to prevent the abuse of intellectual property (column 1, lines 28-31).

Therefore, it would be obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Shur by including printer-specific and color-space data in the rendering of watermarked data in order to prevent the abuse of intellectual property (column 1, lines 28-31).

***Response to Arguments***

13. Applicant uses the phrase "do not contempt" on page 15, lines 10 and 22. Contempt is defined by "The American Heritage College Dictionary, 4<sup>th</sup> Ed." as "the feeling or attitude of regarding someone or something as inferior, base or worthless" (page 309). Examiner assumes applicant means "do not contend" for purposes of this action. Applicant states "[w]e respectfully request that claim 10 be allowed" on page 16, line 22. Examiner assumes applicant means claim 15. Appropriate correction required.

14. Applicant's arguments filed 9/19/2005 have been fully considered but they are not persuasive.

Regarding claims 1 and 11, it is true that the hash corresponds to a host image; in fact, it is derived from it (Bhaskaran, column 4, lines 11-13). The hash is then incorporated into the watermark using a digital signature algorithm and a secret key (Bhaskaran, column 4, lines 11-17). The hash is a characteristic of the digital watermark. If the hash of the host image is changed, so is the resulting digital watermark.

Regarding claim 15, examiner agrees with the argument put forth by the applicant that the reference for the claim limitation of generating a metric based on a

detected digital watermark is lacking. However, the rejection is not withdrawn. In light of applicant's argument, examiner directs applicant to another reference from Shur within the same claim rejection (Shur, column 11, lines 12-24). The watermark is detected, extracted and new data is added to the watermark and it is reinserted into the data stream at the distribution point. The new data may be a parameter such as the type of lease or license is attached to the digital work, the expiration of the license or the number of permitted plays associated with the work (Shur, column 10, lines 1-11). In the case of a transaction where a customer purchases a digital work with a limited number of permitted plays, the number of plays is inserted into the watermark at the distribution point and after each play, decrements the allowable play count until it reaches zero.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William S. Powers whose telephone number is 751 272 8573. The examiner can normally be reached on m-f 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on 571 272 3838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WSP  
December 1, 2005

  
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